DOCUMENT RESUME

ED 109 633 CS 002 035

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TITLE Assessment of Subskills Related to Novel Word Decoding.
INSTITUTION Southwest Regional Laboratory for Educational Research and Development, Los Alamitos, Calif.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
REPORT NO SWRL-TN-2-72-10
PUB DATE Feb 72
NOTE 59p.

EDRS PRICE MF-$0.76 HC-$3.32 PLUS POSTAGE
DESCRIPTORS *Decoding (Reading); Educational Research; Kindergarten Children; Primary Education; *Reading Research; *Task Performance

ABSTRACT

Four tasks believed to assess different subskills of word decoding were administered to 87 kindergarten subjects after determining their ability to decode novel word forms. The four tasks included visual-aural recognition, aural-aural recognition, visual-oral production, and aural-oral production. Subjects were grouped into high, middle, and low ability decoders, and the relationship between these groups and task performance was assessed. The results showed that while high ability decoders can perform all tasks, middle and low ability decoders exhibit poorer performance as task complexity increases. Production tasks (producing sound correspondents for letters in words and blending isolated sounds into words) were found to be most closely related to decoding ability, whereas tasks requiring the subjects to recognize the letter correspondents and sound components of spoken words were found to be less closely related. While the former tasks were considered to reflect necessary component skills of novel word decoding, the latter tasks were considered to reflect skills which serve to develop the component skills. Implications of these findings for pedagogy and future research projects are discussed. (TS)

SOUTHWEST REGIONAL LABORATORY TECHNICAL NOTE

DATE February 25, 1972

NO TN-2-72-10

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Robert E. Rudegeair and R. James Mineo

ABSTRACT

Four tasks believed to assess different subskills of word decoding were administered to kindergarten Ss after determining their ability to decode novel word forms. Ss were grouped into high, middle, and low ability decoders and the relationship between these groups and task performance was assessed. The results showed that while high ability decoders can perform all tasks, middle and low ability decoders exhibited poorer performance as task complexity increased. Production tasks (producing sound correspondents for letters in words and blending isolated sounds into words) were found to be most closely related to decoding ability, whereas tasks requiring the S to recognize the letter correspondents and sound components of spoken words were found to be less closely related. While the former tasks were considered to reflect necessary component skills of novel word decoding, the latter tasks were considered to reflect skills which serve to develop the component skills.

Task data were also analyzed in terms of response errors. Results indicated a strong tendency for Ss to decode CVC letter strings on a letter-by-letter basis instead of treating the final VC as an integrated unit.

Implications of these findings for pedagogy and future research projects are discussed.

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Designs of tasks for training phonics subskills are usually the result of educated guesswork. In the literature, one finds large discrepancies between the task descriptions provided by different investigators (Silberman, 1965; McNeil & Coleman, 1967; Gotkin et al., 1969; Coleman, 1970; Richardson & Collier, 1971). However, there is apparently little disagreement about the gross skills the child is expected to learn from the tasks at issue. These skills can be summarized as follows:

1) The child must be able to isolate single speech sounds.
2) He must learn letters as well as their sound correspondences.
3) He must be able to provide articulatory correspondences for the letters of a word according to their order in the word, e.g., sounding out.
4) He must be able to blend a series of sounds into the whole word pronunciation.

Given these skills, the theory goes, generalized decoding performance is nothing short of inevitable. If, at the end of a training program, the child is not equipped to perform generalized word decoding, it can be concluded that either he did not learn the training tasks to a sufficient degree and/or the training tasks did not address all the skills outlined above.

The present study represents a preliminary attempt to discover the relevance of a set of subskill tasks to generalized word decoding performance. By assessing novel word decoding performance as well as performance on a set of subskill tasks, it should be possible to determine the relevance of the subskill tasks to the acquisition of the generalized skill.

Four assessment tasks were constructed to reflect the four skills described earlier. The nature of these tasks can be sketched as follows:

1) Given a speech sound, recognize it in the context of a spoken word. This task involves an aural stimulus and an aural set of response choices. A selected response is required.
2) Given a letter, recognize its corresponding sound in the context of a spoken word. This task involves a visual stimulus and an aural set of response choices. A selected response is required
3) Given a printed word, pronounce the corresponding sound for a specified segment. This task involves a visual stimulus, and an oral production is required as a response.
4) Given a segmented spoken word (i.e., sounded-out), produce the whole word pronunciation. This task involves an aural stimulus, and an oral production is required as a response.

One might expect that efficient word decoders will have mastered all the subskills reflected in these tasks. Those children who exhibit low decoding ability are likely to demonstrate either a single skill deficit or a global deficit that affects their performance on all subskill tasks. In an attempt to discern the nature and extent of any deficit, tasks were designed to reflect a hierarchy of task variables. For example, tasks can be intra-modal tasks or cross-modal tasks. Intra-modal selected response tasks involve either a visual stimulus and a visual set of response choices or an aural stimulus and an aural set of response choices. Cross-modal recognition tasks involve a visual stimulus and an aural set of response choices or vice versa. Intra-modal tasks are considered to be simpler or more readily learnable than cross-modal tasks since the cross-modal tasks require learned letter-sound associations while intra-modal tasks do not.

It has been shown that tasks involving selected responses are easier than tasks where constructed responses are required (Sullivan & Majer, 1970; Saario et al., 1970). The tasks described for the present assessment are comprised of a selected response task and a constructed response task under both levels of the modality factor (intra-modal and cross-modal). If the assumptions about the hierarchical nature of tasks varied along these dimensions are valid, low ability decoders may be expected to perform more poorly as task complexity increases.

Since the present investigation is aimed at subskill assessment in the context of the SWRL FYCSP, an additional feature of task makeup will be considered, namely, the size and position of subword units that are to be produced or recognized. Participants in the SWRL program are trained to segment a CVC (consonant-vowel-consonant) syllable into two constituents, the initial word element and the final bigram (or biphone). Since the manner in which the SWRL Ss were trained can be expected to have an effect on their task performance, all possible units of analysis with regard to a CVC syllable were tested. In other words, Ss were required to respond in terms of the following analytical response possibilities:

Given CVC, respond:
1) C (initial)
2) V
3) C (final)
4) CV
5) VC

The task employed in the present study can be represented by the cells of the matrix presented in Table 1. Three of the tasks involve

TABLE 1

MATRIX OF VARIABLES CONSIDERED IN ASSESSMENT TASKS

Type of Performance	Stimulus Response Modes	1) Consonant (Initial)	2) Vowel	3) Consonant (Final)	4) Initial CV	5) Final VC
Recognition (Selected Responses)	Aural-Aural (AAR)					
	Visual Aural (VAR)					
Production (Constructed Responses)	Aural-Oral (AOP) (Blending)					
	Visual-Oral (VOP)					

extracting a subword unit from a word context, i.e., segmentation, while the fourth task (aural-oral production) involves blending a series of units into the whole word pronunciation. The nature of the blending task precludes the assessment of performance with regard to the segmentation units that are included in the segmentation tasks. In this task, five different blending forms are used in presenting the sounded out stimuli.

The SWRL pupils participating in the present study might be expected to exhibit, in the segmentation tasks, a response bias in favor of the initial consonant and the final VC unit since they are trained to deal in terms of these units when segmenting a CVC word. On the other hand, since Ss have had training on initial consonants in isolation, some generalization to consonants in final position can be expected. For this reason, performance on final consonant recognition and production is expected to equal or exceed performance on the VC unit. In contrast, performance on items requiring isolated vowel responses can be expected to exhibit a high rate of errors because the SWRL Ss have little training on such a unit.

METHOD

DESIGN

The study employed a battery of four tasks designed to assess kindergarten children's ability to both recognize (select) and produce segments of words presented aurally and visually. A 40-item Novel Word Decoding (NWD) Test to assess the child's ability to pronounce novel words was given to each subject prior to and following the task battery. The battery was administered to each subject over a four-day period, i.e., each subject received a different task on each day.

There were two between-subject factors for all tasks: a) decoding ability (high, middle, or low-scoring groups), and b) task sequence:

1) A-A-R (item order 1) --- V-A-R (item order 1) --- A-O-P --- V-O-P
2) A-A-R (item order 2) --- V-A-R (item order 2) --- V-O-P --- A-O-P
3) V-A-R (item order 1) --- A-A-R (item order 1) --- A-O-P --- V-O-P
4) V-A-R (item order 2) --- A-A-R (item order 2) --- V-O-P --- A-O-P

The within-subject dimension for the visual-aural and aural-aural recognition tasks and the visual-oral production task was analytical unit (initial consonant, vowel, final consonant, initial CV, and final VC). The within-subject factor for the aural-oral production task was blending form (CV-C, C-VC, C-V-C, C-V, and V-C). On a given day each subject received either a recognition task consisting of 40 items or a production task containing 30 items. Thus, for each selection task there were eight trials for each of the five analytical units, and for the visual-oral production task there were six trials for each of the five units. In the aural-oral production task there were six trials for each of the five blending forms.

Since selected responses are generally considered easier than constructed responses, Ss were given both recognition tasks before the production tasks. In the recognition tasks, item order varied. While one word of a pair was the "target" word in order 1, it was the "foil" word of the same pair in order 2. Presentation of the five analytical units for each of the 30 words in the visual-oral production task was counterbalanced within each sequence, i.e., there were five lists of presentation for this task, each list requiring a different analytical unit response for a particular word (cf. Appendix 2). Presentation of the five blending forms for each of the 30 items in the aural-oral production task was counterbalanced in a similar manner.

SUBJECTS

Eighty-seven kindergarten children attending a Los Angeles City school were given the NWD test. The study population was composed of the 60 boys and girls who ranked the highest on the test. These Ss' ages ranged from 67 months to 79 months with a mean age of 73 months. Two of the 60 Ss became ill during the progress of the study and were replaced with Ss who scored within one standard deviation of the mean of the group to which the ill S belonged. The Ss were all Caucasian, spoke a standard English dialect, and had received approximately six months instruction in the SWRL First-Year Communication Skills Program (the SWRL kindergarten reading program).

APPARATUS AND MATERIALS

The apparatus used in the study included a stereo cassette recorder (Ampex Micro 88) and two directional speakers. The speakers were placed in front of S and were separated on a low table at a distance of about four feet. Each S sat in a small chair approximately one foot from the table.

The words used in the Novel Word Decoding test were constructed from word constituents found in the first six units of the FYCSP as follows:

a) 10 real words constructed from familiar word-initial elements and familiar word endings (phonograms);

b) 10 real words constructed from familiar word-initial elements and unfamiliar word endings (novel phonograms);

c) 10 nonsense syllables constructed from familiar word-initial elements and familiar word endings (phonograms);

d) 10 nonsense syllables constructed from familiar word-initial elements and unfamiliar word endings (novel phonograms).

Novel phonograms are novel VC sequences of the vowels and final consonants from program phonograms.

The recognition tasks consisted of 40 different word pairs; the production tasks were comprised of 30 different words. All words were nonsense syllables constructed from familiar word-initial elements and familiar word endings (as in word type "c" of the NWD test). The NWD test words and the stimulus items for the recognition and production tasks are given in Appendix 2. Words and letters presented visually were printed on cards in capital letters. The word pair stimuli were recorded by a trained linguist in the Laboratory recording studio.

PROCEDURE

Prior to administering the subskills test battery Ss were given the NWD test. Novel words and nonsense syllables were grouped into blocks of four, with one word of each type described previously appearing in each block. The resulting ten blocks were randomly presented to each S. Individual words were presented one at a time on index cards and Ss were asked to simply read the word. All responses were recorded by E on prepared data sheets.

Based on NWD test performance, each S was assigned to a decoding ability group (low, middle, or high, 20 Ss per group). For this purpose, responses to novel words were scored on the basis of sounds correct. This measure was felt to be a more reliable indicator of decoding ability since the learning of sound correspondences is still taking place for these Ss. Under these conditions, a maximum score would be 120. Scores for the low NWD group ranged from 4 to 20 with a mean of 11.2; scores for the middle group ranged from 21 to 64 with a mean of 35.5; scores for the high group ranged from 65 to 119 with a mean of 89.7. Assignment within each group to task sequence was random. On Days 1 and 2 Ss received one or the other of two recognition tasks. In the visual-aural recognition task (VAR), Ss were presented a card on which was printed a letter or digraph, depending on the analytical unit being tested (i.e., initial consonant: C_i; vowel: V; final consonant: C_f; initial consonant plus vowel: CV;

vowel plus final consonant: VC). Next he was presented two words aurally, the first emanating from the left speaker, the other, one second later, from the right speaker. S was then asked to point to the speaker whose word corresponded to the visual stimulus immediately after hearing the second aural stimulus. The appropriate response was randomized over left and right speakers with the constraint that it occur equally on both sides. The aural word pairs were presented to half the Ss in each group in one left-right order and to the remaining half in the opposite order. Items relevant to any one analytical unit were randomly distributed throughout the 40-item list.

The aural-aural recognition task (AAR) was similar to the visual-aural task, except that, in the former, the query was presented stereophonically on the tape. Words in the response array were presented about one second apart. Left-right word-pair order as well as the unit being tested was randomized in the same manner as in the visual-aural selection task.

The visual-oral production task (VOP) required the Ss to orally produce the sound correspondent of a segment of a word presented on a card. The portion of the word corresponding to the unit being tested was underlined and shown to S, who was instructed to pronounce the underlined word segment.

The aural-oral production task (AOP) consisted of presenting a sounded-out word and requiring Ss to produce the word as a unified whole. The following testing paradigm illustrates the nature of the blending forms tested:

Aural Stimulus	Response
CV-C: /sɪ/ # /n/	/sɪn/
C-VC: /s/ # /ɪn/	/sɪn/
C-V-C: /s/ # /ɪ/ # /n/.	/sɪn/
C-V: /s/ # /ɪ/	/sɪ/
V-C: /ɪ/ # /n/	/ɪn/

The NWD test was administered again to each S after the task battery in order to determine its reliability as well as to assess the generalized effect of the task battery.

RESULTS

NOVEL WORD DECODING TEST

Scores on the NWD test were determined by assigning a 3, 2, 1, or 0 to each of the 40 items on the test, according to the number of phonemes identified in each item. Thus, if the correct response was red and the S said fed, he received a score of 2 for that item. Scores on the NWD test ranged from 4 to 119 out of a possible score of 120. All differences between the means of the three decoding ability groups were found to be reliable with the Newman-Keuls procedure ($p < .01$).

Table 2 shows the mean score and standard deviation for each group on the four word types which comprised the NWD test. Responses to words composed of familiar phonograms were essentially the same for words composed of novel phonograms, however, responses to words of the latter type were slightly less accurate for all groups.

TABLE 2

MEANS AND (STANDARD DEVIATIONS) FOR ABILITY GROUP ON EACH WORD TYPE IN THE NWD TEST

	Real Words		Nonsense Syllables	
	Familiar Phonogram	Novel Phonograms	Familiar Phonograms	Novel Phonograms
High	23.5 (4.67)	22.5 (5.08)	22.5 (3.90)	21.4 (4.21)
Middle	9.4 (3.78)	8.8 (4.02)	9.2 (3.96)	8.4 (4.03)
Low	2.8 (1.97)	2.4 (1.46)	3.0 (2.64)	2.9 (2.45)

A breakdown of responses on the post-NWD test is not reported here, however a Spearman rank-difference correlation was calculated for Ss' rankings on pre- and post-NWD tests. A rho value of .90 was significant at p = [illegible], indicating that posttest performance had not changed significantly for the Ss and that the task battery apparently had no effect on Ss' ability to read novel words.

Performance on the NWD pretest was also analyzed in [illegible] the number of whole words correctly pronounced by each group.[4] Out of 40 possible correct responses, the high group averaged [illegible].3 words decoded; the middle and low groups averaged [illegible] and .5[illegible] words, respectively.

[illegible]

[illegible] were performed on the [illegible] data, the A-A data, and the [illegible] tasks. The results of the ANOVAs are summarized in [illegible].

[illegible]

[illegible] differed [illegible] correct [illegible] the [illegible] group, and 6[illegible]% for the [illegible] procedure [illegible] better than [illegible] the middle group [illegible] instances

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[illegible]

did a higher ranking between-subjects group perform more poorly on any of the five analytical units than a lower ranking group.

Task-item sequencing was also significant, $F = 3.48$, $df = 3/48$, $p < .05$. [illegible] it appeared that Ss performed better with sequence 2, where the aural-aural recognition task using item order 2 occurred first.

Recognition of the analytical units varied significantly, $F = 16.21$, $df = 4/192$, $p < .01$. Mean percent recognition was 83% for the initial consonant, 65% for the vowel, 76% for the final consonant, 70% for CV, and 65% for VC.

TABLE 3

MEAN PERCENT RECOGNITION OF ANALYTICAL UNIT FOR ABILITY GROUPS IN THE VAR TASK

	C_i	V	C_f	CV	VC
High	99	76	93	81	81
Middle	80	62	70	72	63
Low	71	55	67	59	59

Tests for differences among means for analytical unit using the Newman-Keuls procedure indicated that recognition performance for the C_i was significantly superior to C_f ($p < .05$) and all other units ($p < .01$). The C_f unit differed significantly from V and VC ($p < .01$). None of the other differences reached significance.

Aural-Aural Recognition Task (AAR)

Mean group performance on the aural-aural selection task differed significantly, $F = 11.74$, $df = 2/48$, $p < .01$, with 85% correct recognition for the high group, 75% for the middle group, and 65% for the low group.[2] Post hoc analyses using the Newman-Keuls procedure indicated that high group performance was significantly superior to that of the low group ($p < .01$), however no other differences among groups reached significance.

No reliable differences among task-item sequences were found ($F = .68$, $df = 3/48$, $p < .01$, although performance for Ss in sequence 3 was slightly superior.

Differences among recognition of the analytical units was significant ($F = 2.69$, $df = 4/192$, $p < .05$). Correct recognition of the initial consonant was 78%, the vowel 71%, the final consonant 72%, the CV unit 76%, and the VC unit, 78%. Mean recognition of the analytical unit by the decoding ability group is shown in Table 4. Newman-Keuls tests for

TABLE 4

MEAN PERCENT RECOGNITION OF ANALYTICAL UNIT FOR ABILITY GROUPS IN THE AAR TASK

	C_i	V	C_f	CV	VC
High	90	79	81	83	90
Middle	79	72	76	77	73
Low	67	64	62	65	68

these differences indicated that recognition of C_i and VC units was significantly better than the V unit ($p < .05$), although no other differences among units reached significance.

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[2]Percentages are based on 800 observations (20 Ss per group x 40 items per S).

PRODUCTION TASKS

Separate ANOVAs were performed on the visual-oral data, the aural-oral data, and the data from both tasks. ANOVA summaries are presented in Appendix 1.

Visual-Oral Production Task (VOP)

The ability to produce the sounds for underlined word segments differed significantly among the three decoding ability group ($F = 73.49$, $df = 2/48$, $p < .01$). Mean correct performance for the high group was 86%, the middle group 54%, and the low group 34%.[3] Tests for differences among group means using the Newman-Keuls procedure indicated that the high group was significantly better than the middle and low groups, and the middle group was significantly superior to the low group ($p < .01$).

Performance in the task-item sequences was found to differ significantly, ($F = 5.54$, $df = 3/48$, $p < .01$), with superior production for Ss in task sequence 2 (aural-aural recognition, visual-aural recognition, visual-oral production, aural-oral production).

Production of the analytical units differed significantly ($F = 73.61$, $df = 4/192$, $p < .01$), with the C_f unit eliciting superior performance (82%) and the CV unit poorest performance (34%). Newman-Keuls procedures indicated that C_f and C_i production was superior to CV, VC, and V, ($p < .01$); V and VC production was superior to CV production ($p < .01$). No other differences reached significance.

As shown in Figure 1, there was a significant interaction between analytical unit and decoding ability groups ($p < .01$). Table 5

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[3]Percentages are based on 600 observations (20 Ss per group x 30 items per S).

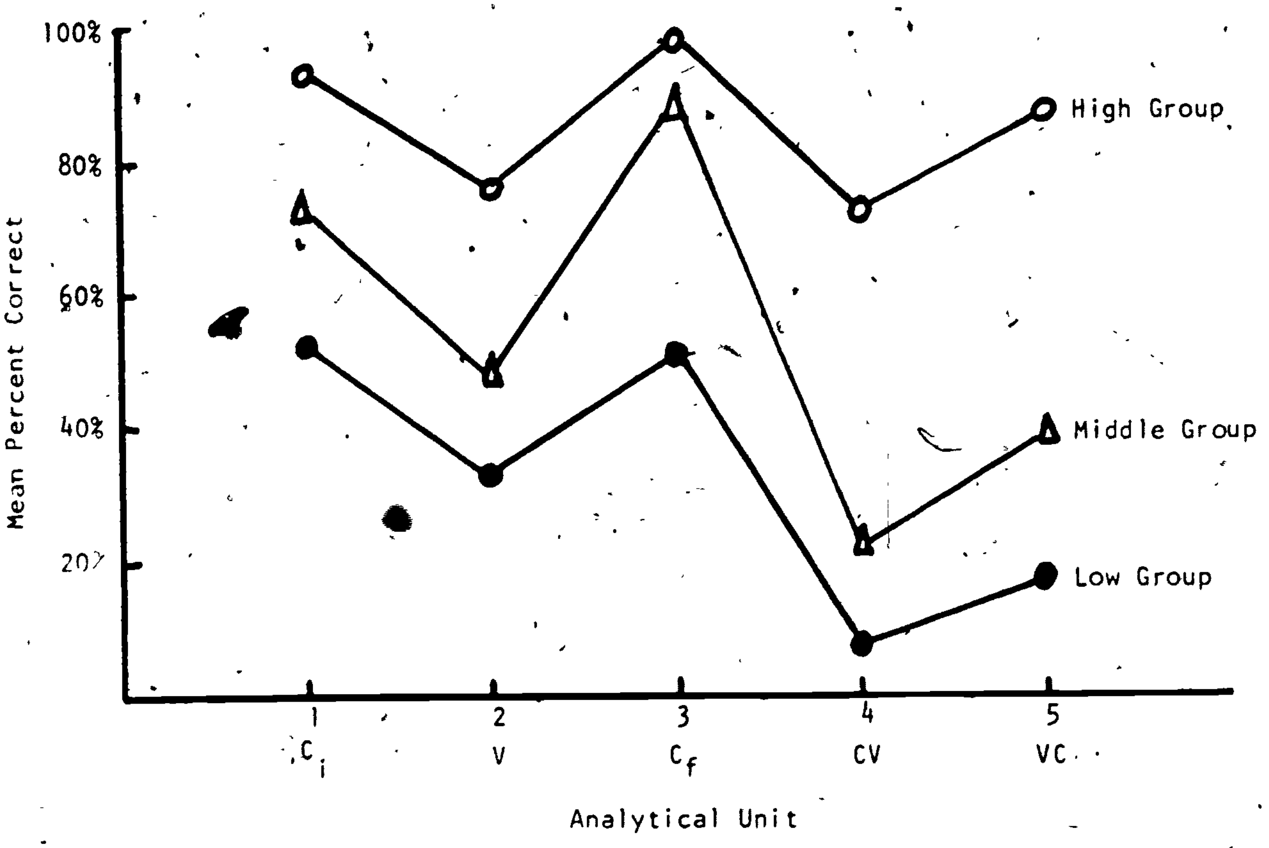

Figure 1. Decoding ability group × analytical unit interaction for the VOP task.

illustrates differences among interaction means, using the Newman-Keuls procedure.

TABLE 5

STATISTICAL COMPARISONS BETWEEN ANALYTICAL UNIT MEANS FOR EACH ABILITY GROUP ON THE VOP TASK

Group	Analytical Unit Differences Significant at the 1% Level
High	C_i > CV, V C_f > CV, V, VC VC > CV, V
Middle	C_i > CV, V C_f > CV, V, VC VC > CV, V
Low	C_i > CV, VC, V C_f > CV, VC, V V > CV, VC VC > CV

Blending Task (AOP)

The ability to blend the various forms was significantly different among the three decoding ability groups ($F = 31.77$, $df = 2/48$, $p < .01$). Mean blending ability for the high group was 90%, the middle group 52%, and the low group, 43%. Newman-Keuls procedures indicated that the high group was significantly superior to the middle and low groups ($p < .01$). The difference between the middle and low groups did not reach significance.

Significant differences among task-item sequences were found, Ss in sequence 2 being the most successful.

The differences among means for blending analytical units into word forms was significant, $F = 18.80$, $df = 4/192$, $p < .01$. The blending percentages for each form were: CV-C, 71; C-VC, 69; C-V-C, 47; C-V, 63; and V-C, 60. Post hoc analysis using the Newman-Keuls procedure indicated that blending the C-V-C form was significantly inferior to other forms ($p < .01$); the CV-C and C-VC blends were significantly easier than the V-C blend ($p < .01$, $p < .05$, respectively); the other differences were insignificant.

The interaction of decoding ability groups and blending form was significant ($F = 2.22$, $df = 8/192$, $p < .05$), and is depicted in Figure 2. Differences among these interaction means were tested using the Newman-Keuls procedure, and the results are shown in Table 6.

CORRELATIONS AMONG TASKS

The Pearson product moment correlation procedure was used to assess the relationship of subskill tasks to NWD as well as to each other. These correlations are presented in Table 7 and are graphically represented in scatter-plot form in Figures 3-7.

Partial correlation methods were employed to determine the relationship between VOP, blending, and NWD. A significant correlation of .66 was found for VOP and NWD with the effects of the blending task partialed ($p < .01$). However, the partialed coefficient of blending and NWD ($r = .20$) did not reach significance.

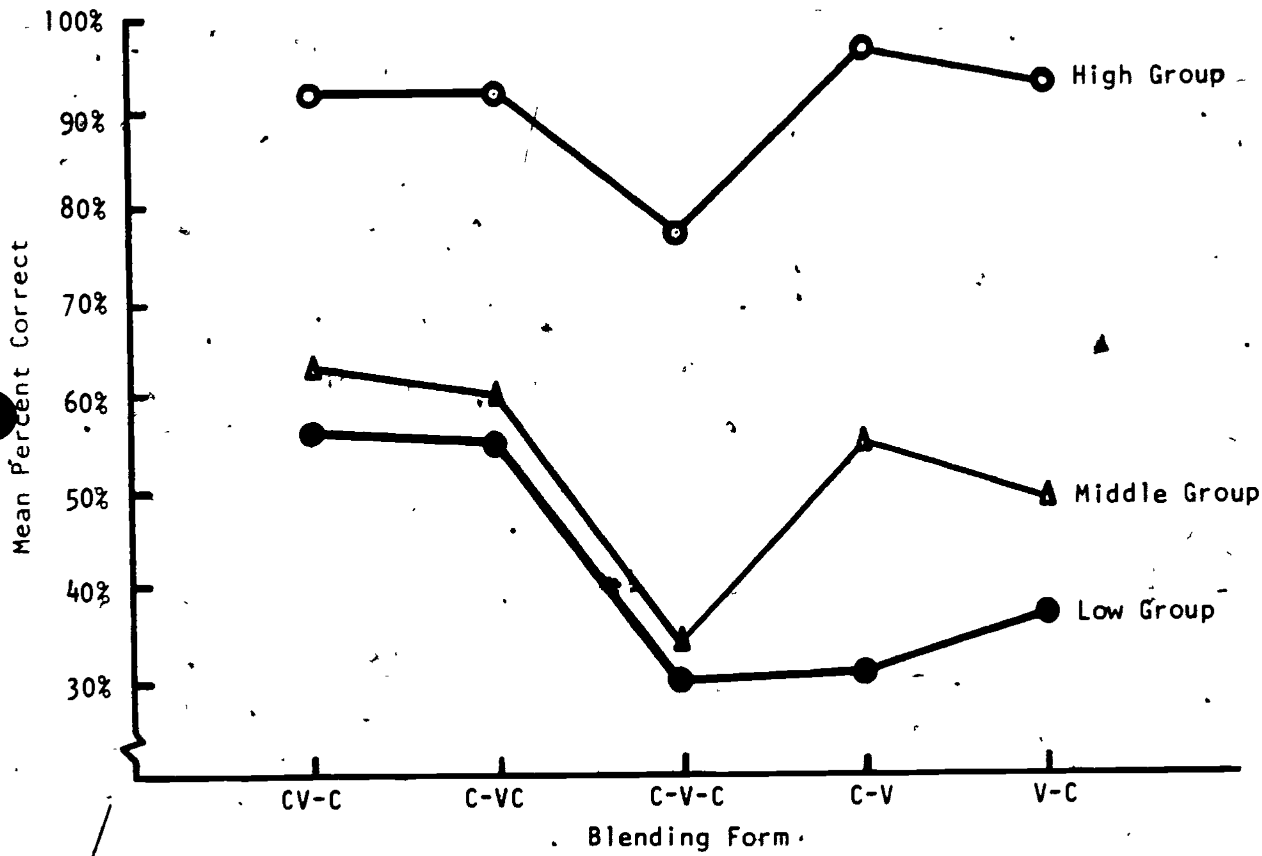

Figure 2. Decoding ability group x blending form interaction for the AOP task.

TABLE 6

STATISTICAL COMPARISONS BETWEEN BLENDING FORM MEANS FOR EACH ABILITY GROUP ON THE AOP TASK

Group	Blending Form Differences Significant at the 1% Level
High	C-V > C-V-C
	V-C > C-V-C
	C-VC > C-V-C
	CV-C > C-V-C
Middle	CV-C > C-V-C, V-C
	C-VC > C-V-C, V-C
	C-V > C-V-C
	V-C > C-V-C
Low	CV-C > C-V-C, C-V, V-C
	C-VC > C-V-V, C-V, V-C

TABLE 7

CORRELATIONS AMONG SUBSKILL TASK AND NOVEL WORD DECODING TEST SCORES

	VAR	AAR	VOP	AOP	NWD
VAR		.582	.762	.659	.746
AAR			.596	.497	.511
VAP				.783	.811
AAP					.707

DISCUSSION

GROUP PERFORMANCE

The results from the analyses of variance presented in the preceding section with regard to group performance reveal that on all four subskill tasks the ability groups maintained their relationship to one another, i.e., low, middle, and high. The mean scores for the low ability group were always significantly lower than the high group mean scores. The mean scores for the middle group were significantly lower than high group mean scores on all tasks except the aural-aural recognition task. These results make it clear that lower ability decoders are deficient, relative to high ability decoders, with regard to all subskills measured by the tasks in the study. While middle-group performance was not significantly lower than high group performance on the aural-aural recognition task, this task proved to show least relationship to the novel word decoding test on the basis of which Ss were assigned to groups. Mean correct performance figures show the high group to be consistently near ceiling on all subskill tasks, while the mean correct performance figures for the low and middle groups are relatively high for recognition tasks and relatively low for production tasks.

It would appear from the group performance data that Ss who fall into the middle and low ability decoding groups do so because they fail to learn training outcomes, particularly production outcomes. The SWRL FYCSP in which these Ss participated consists essentially of the visual-aural recognition task and the visual-oral production task, as revealed in a task analysis reported elsewhere by Sherman and Van Horn (1971). While some blending is included in the SWRL program it is not like the

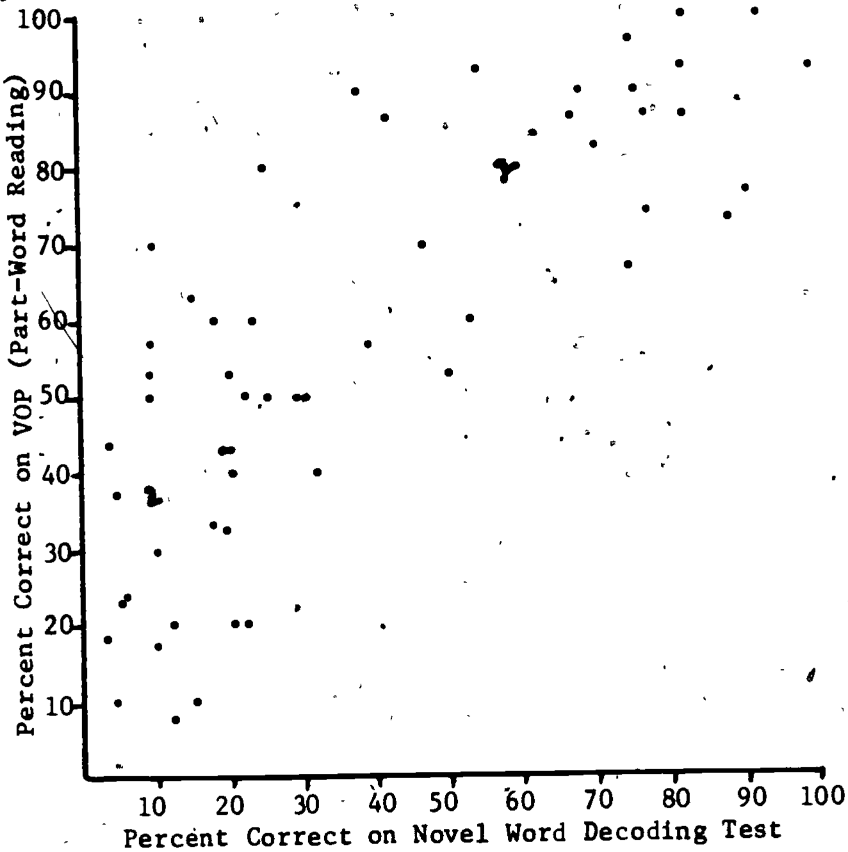

Figure 3. Scatter plot diagram for the correlation between VOP (part-word reading) and novel word decoding.

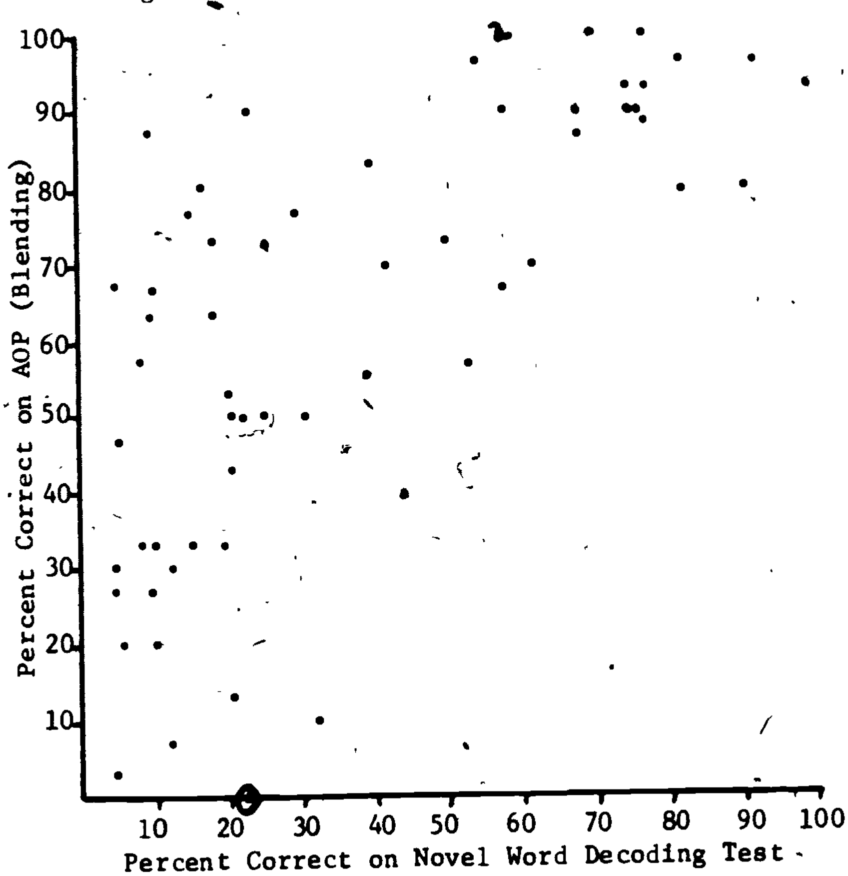

Figure 4. Scatter plot diagram for the correlation between AOP (blending) and novel word decoding.

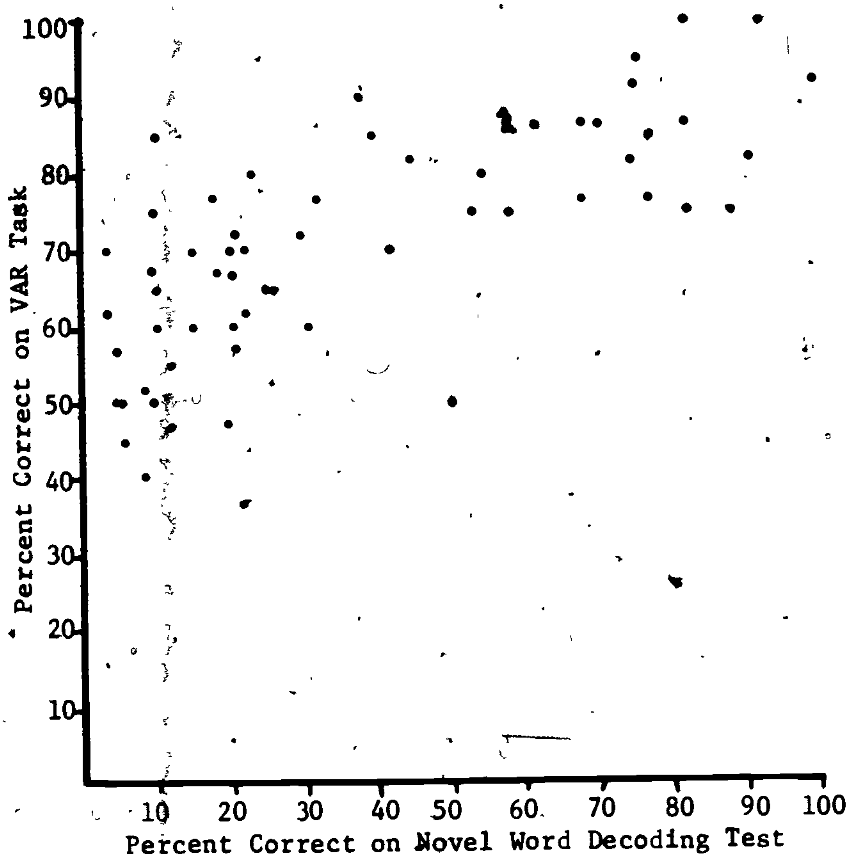

Figure 5. Scatter plot diagram for the correlation between VAR and novel word decoding.

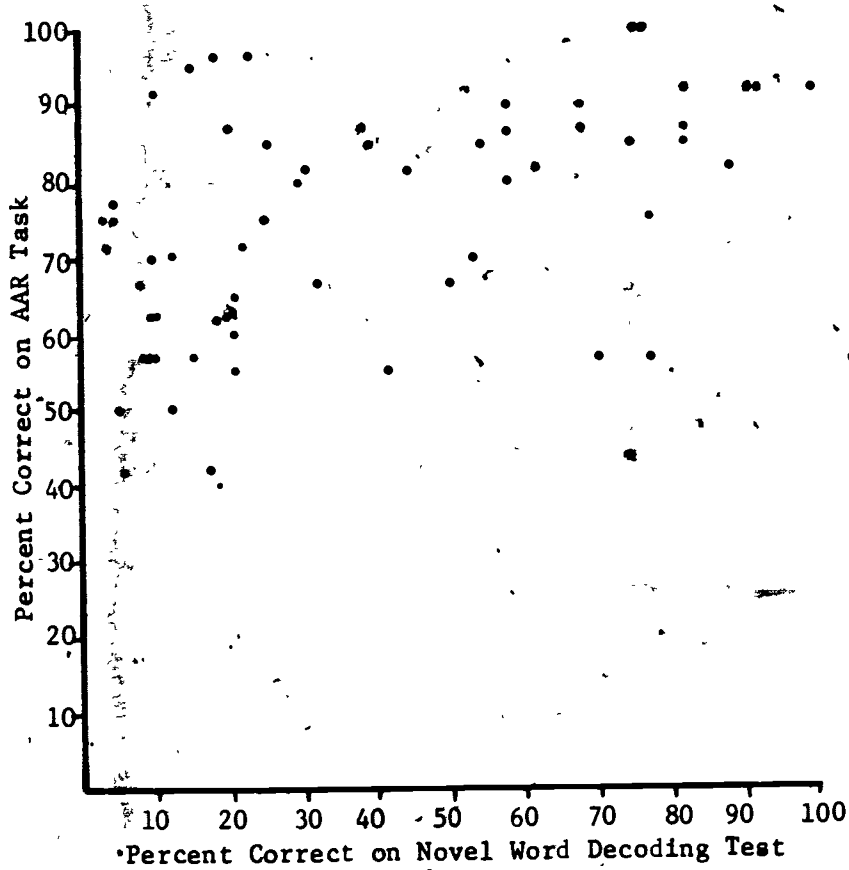

Figure 6. Scatter plot diagram for the correlation between AAR and novel word decoding.

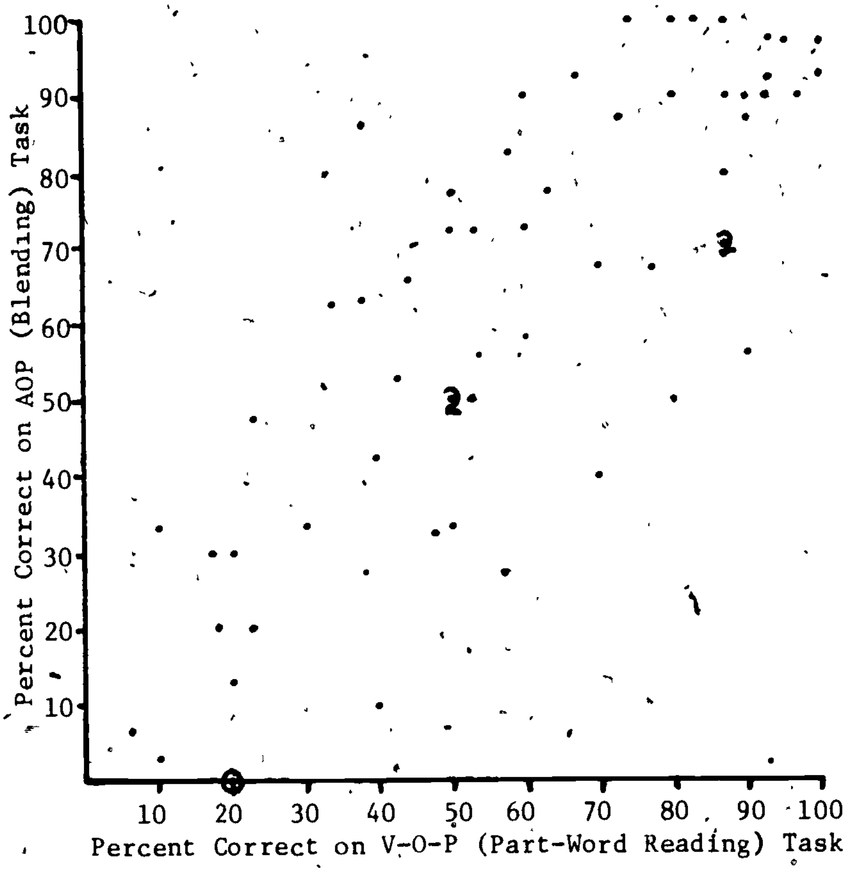

Figure 7. Scatter plot diagram for the correlation between AOP (blending) and VOP (part-word reading).

blending task employed in the present study; no overt presentation of isolated sound stimuli are presented in the program blending component. The data from the present experiment fail to address the question concerning the sufficiency of program outcomes to provide generalized decoding ability since it is not clear that the assessment tasks employed tap all possible subskills of novel word decoding.

Although a significant main effect for the task sequence factor and its interaction with task type was found when the data from all four tasks was analyzed together, most differences among interaction means are minimal and a detailed discussion of them is not useful. Two large differences however, for part-word reading (VOP) merit consideration: significantly better performance of Ss in sequence 2 than sequence 3, and sequence 4 ($p < .01$). The only distinction between sequence 2, and sequences 3 and 4, involves the presentation order of the recognition tasks; Ss in sequence 2 received the AAR task first and then the VAR, while Ss in sequence 3 and 4 received these tasks in the opposite order. One plausible explanation for the superiority of the Ss in sequence 2 is that some short-term memory mechanism may facilitate transfer from the visual-aural- recognition task (which immediately preceded VOP) to the visual-oral production task. If this is the case, there may be some temporal store of the letter-sound correspondences which serve to enhance performance on the production tasks. The effects of variable sequencing of assessment and training tasks need to be examined carefully as they related to one another as well as to novel word decoding.

SEGMENTATION UNITS AND BLENDING FORMS

In three of the tasks in the study, as noted earlier, performance with regard to five different units of word analysis was assessed.

[illegible]

The study confirms the generally accepted notion that vowel correspondences are much more difficult to learn than consonant correspondences. Yet this is not necessarily due, as is usually the case, to vowel correspondent variability since the Ss were trained on only one vowel correspondence in the program and given only one correspondence in the study. Although the phonogram elicited better performance in the aural-aural recognition task, the vowel unit elicited better performance than the VC phonogram unit in the cross-modal tasks with the exception of high-group responses in the visual-aural production task. While VC phonogram training is an attempt to overcome vowel learning problems, it appears from these data to be essentially unsuccessful since Ss appear to be treating the phonogram not as a unit, but as V+C. This seems clear just on the basis of their performance in regard to the final consonant. Yet further evidence is apparent if the question is posed: are phonogram responses strictly a function of the probability of identifying the vowel multiplied by the probability of identifying the final consonant? Table 5 shows the mean percent of correct responses by ability group to vowels, final consonants, and VC

TABLE 5

MEAN PERCENT CORRECT RESPONSES TO CERTAIN ANALYTICAL UNITS FOR EACH ABILITY GROUP (VISUAL-ORAL PRODUCTION TASK)

Ability Group	Underlined Segment: V	C_f	VC	Predicted Value
High	[illegible]	98	[illegible]	[illegible]
Middle	[illegible]	88	38	[illegible]
Low	[illegible]	[illegible]	[illegible]	[illegible]

phonograms in the visual-oral production task. On the right the values predicted on the basis of V+C response performance are given. If phonograms were easier to learn than each segment as an independent unit, then mean percent correct figures for the phonogram should exceed the predicted values. Only the high group evidences such a finding, and this is related to the earlier finding that in this task phonograms elicited from the high group correct responses on a par with correct responses to the initial and final consonants. Low and middle group Ss are responding to the phonogram as vowel + consonant, not as an integrated unit.

This finding is not surprising since the phonogram, as employed in the SWRL FYCSP, has no contrastive value. The phonogram is useful only insofar as contrasting phonograms are set up in such a way that Ss must process them as a unit in order to determine the correct pronunciation of the vowel. In the content of the training undergone by Ss in this study, vowels only have one sound correspondent, viz., the short sound. Thus, there is no necessary reason why Ss should treat the phonogram as an integrated unit, only the instruction to do so. But since they learn initial consonants as single units and therefore find it easy to process the final consonant in similar manner, the vowel is left to be processed in isolation. This can in no way jeopardize their success since the sound correspondent of the vowel is the same in isolated as well as combined form. While it is true that later in their training (e.g., in the second year) contrasting phonograms will occur (e.g., final-e pattern), this has no effective bearing on their performance under the conditions of the first year program.

If more effective mastery of vowel correspondences is to be sought, then isolated vowel sounds should be taught in response to vowel graphemes or some contrastive value must be given the phonogram. If the latter procedure is followed, Ss will be constrained to process post-vowel environments to determine the appropriate sound correspondent and the phonogram can assume a viable role in letter-to-sound training.

The blending task results show that the three-part blend form, C-V-C, elicited significantly more errors for all groups than the two-part blend forms involving a sound sequence plus a consonant (i.e., CV-C and C-VC). Furthermore, for both the middle and high groups, the C-V and V-C blend forms elicited significantly better performance than the three-part blend form. These results, at face value, lead to the conclusion that blending ease is a function of the number of constituents to be blended. This conclusion is supported by other reports on young children's ability to blend both real words (Chall et al., 1963) and nonsense syllables (Balmuth, 1966). However, the limited ability of Ss in the present study to blend three-part forms may not be solely attributable to the number-of-constituents factor since these Ss had training restricted to C-VC blends. An additional feature of the various blend forms that is apparently contributing to blending difficulty is the presentation of vowels in isolation. Of the four two-part blends tested, certain forms (viz., C-V and V-C) proved more difficult than the other two-part forms for the low and middle groups, and these forms involve the presentation of vowels in isolation. Substantive conclusions regarding blending problems cannot be drawn from the present data since Ss participating in different types of blending training were not sampled in this study.

The blending data and the segmentation data appear to be at odds regarding the value of the phonogram in word attack training. The phonograms proved no more useful than the vowel in isolation as a unit for segmentation, while, as a blending unit, the phonogram had a facilitating effect on task performance. The ease of producing the two-part blend may partially explain the recent success claimed by several authors of phonics programs where blending is emphasized as a critical subskill, and two-part blend forms are employed in the training (Gotkin et al., 1969; Richardson & Collier, 1971).

RELATION OF SUBSKILL TASKS TO NOVEL WORD DECODING

According to the figures presented earlier in Table 7, blending performance, visual-aural recognition performance, and visual-oral production performance correlate rather highly with performance on the novel word decoding pretest (.71, .75, and .81, respectively). The best single predictor of novel word decoding ability is the visual-oral production task (pronouncing underlined word segments). This is not surprising since this task, among the subskill tasks, is the closest approximation to the target task. In addition, the manner in which the word decoding pretest was scored clearly had an influence on the degree to which the pretest and the visual-oral test correlated. Since pretest scores took into account partially correct responses, both this task and the visual-oral task are measuring Ss' ability to produce sound correspondents of word segments.

The scatter plots presented in Figures 3 and 4 suggest that segment decoding (measured by the visual-oral task) and blending are both measuring necessary component skills of generalized decoding ability. Few points on the plots fall below the main diagonal. Those that do deviate so slightly that it is clear that no S performed well on the novel word decoding task and poorly on either of the production tasks. In contrast, the scatter plot for the aural-aural recognition task (Figure 6) reveals some tendency for Ss to be good decoders while performing at chance level in this subskill task. Performance plotted for the visual-aural recognition task in relation to the word decoding task (Figure 5) does not show the same degree of unrelatedness, but it contrasts with visual-oral task performance in that, in the latter task, novel word decoding scores were almost a direct function of success in the subskill task (Figure 3). Given these contrasts it seems clear that blending and letter-to-sound decoding (visual-oral) are more valid indicators of novel word decoding ability.

Logically, the blending and letter-to-sound decoding tasks might be expected to measure independent subskills. Yet the correlation coefficient for these two task was .78 and the scatter plot of performance on these two tasks (Figure 7) suggests that some basic cognitive structure is common to both of them.

Partial correlations were calculated to discover any contributions to novel word decoding variance unique to either the blending task or the letter-to-sound decoding task. The partial correlation coefficient (.20) for the blending task (letter-to-sound decoding factor partialed out) indicates that the blending variable contributes little more to NWD variance than can be accounted for by the factor common to both tasks.

On the other hand, the partial correlation coefficient (.66) for the letter-to-sound decoding task (blending factor partialed out) indicates that about 43% of novel word decoding variance is accounted for by this task over and above that contribution accounted for by the common factor between this task and blending. The additional component in the letter-to-sound decoding task contributing to novel word decoding variance can be hypothesized to be association learning since this is the major task variable not involved in the blending task.

Theoretically, the possible common element in the acquisition of both blending and letter-to-sound decoding skills may be the formation of concepts representing isolated speech sounds, i.e., decision rules involving values of relevant acoustic and/or articulatory features which are necessary for: 1) identifying a given speech sound, and 2) producing a given speech sound.

In the case of letter-to-sound decoding, isolated speech sound concepts may be the key to response learning and subsequent associative learning. Isolated speech sounds are not learned responses for the young child. In this sense, they are not available as responses when letter-to-sound training is initiated. Formation of a cognitive representation of a speech sound which is used in generating the sound insures response availability. Association between letters and the conceptual sound representation may then be achieved, linking the visual stimulus to the sound response. In this view, the isolated speech sound concepts provide the central mechanism mediating retrieval and production of appropriate sound correspondents.

In the case of blending, the same concepts can play an essential role. The input to the blending task is a series of isolated speech sounds which must be processed as sets of relevant features, remembered in series, and matched, on the basis of feature similarity, to corresponding manifestations in a blended word (presumably retrievable from store). Since the blended word is an available response its sound should also have a cognitive representation. Similarity of features in representations of isolated and combined occurrences of a sound can serve as the basis of associative connections mediating retrieval and production of appropriate blended words. Thus, isolated speech sound concepts can be hypothesized to underlie mastery of the retrieval and production skills involved in both blending and letter-to-sound decoding. The common factor between these two tasks that was indicated by the correlational data can reasonably be explained in terms of such concepts.

IMPLICATIONS FOR RESEARCH

The present study was a preliminary attempt to determine the relevance of word analysis subskills to novel word decoding ability. In the introduction four subskills were presented as generally agreed upon components of novel word decoding. Subsequently, four tasks designed to reflect these subskills were introduced. The nature of these tasks were determined arbitrarily. Before any comprehensive understanding of the relationship between a subskill task and novel word decoding can be achieved, the interrelations between alternative assessment tasks must be evaluated. In other words, there is an immediate need to evaluate the effect of manipulating subskill assessment task variables. The groundwork for this research has been outlined in an earlier paper (Rudegeair & Mineo, 1971). Furthermore, pedagogical implications of results such as those reported here are contingent on understanding the potential of various assessment tasks to reflect the subskill at issue.

Since it was suggested, on the basis of the data, that most of the Ss in the sample have failed to master training outcomes, research should be initiated regarding more effective training protocols, especially in regard to production outcomes. Some modifications in training procedure have already been suggested in the discussion section, viz., that perhaps in the initial stages, letter-to-sound decoding might be trained in terms of single graphemes rather than grapheme sequences such as the VC phonogram.

Additionally, transfer studies could be designed to test the adequacy of the theory positing isolated speech sound concepts as prerequisite to letter and sound association learning as well as blending behavior. As the theory was stated, Ss without adequate cognitive representations of the sound do not have appropriate responses available for sound correspondence learning. Such Ss are in need of prior or supplementary training to insure response availability. Alternative techniques for training isolated speech sound responses are discussed in a separate report (Rudegeair, 1971).

sk

APPENDIX 1

SUMMARY TABLES OF ANOVA RESULTS

Visual-Aural Selection

Source	df	MS	F
Between Subjects	59		
1. Groups	2	1.70	37.74[a]
2. Sequence	3	.16	3.48[b]
1 X 2	6	.07	1.50
Error	48	.04	
Within Subjects	240		
3. Analytical Unit	4	.35	16.21[a]
3 X 1	8	.03	1.25
3 X 2	12	.02	.94
3 X 1 X 2	24	.01	.67
Error	192	.02	
Total	299		

[a] $p < .01$.

[b] $p < .05$.

Aural-Aural Selection

Source	df	MS	F
Between Subjects	59		
1. Groups	2	1.01	11.74[a]
2. Sequence	3	.06	.68
1 X 2	6	.06	.68
Error	48	.09	
Within Subjects	240		
3. Analytical Unit	4	.05	2.69[b]
3 X 1	8	.02	.79
3 X 2	12	.03	1.68
3 X 1 X 2	24	.02	1.21
Error	192	.02	
Total	299		

[a] $p < .01$.

[b] $p < .05$.

Visual-Aural and Aural-Aural Selection

Source	df	MS	F
Between Subjects	59		
1. Groups	2	2.64	29.62[a]
2. Sequence	3	.08	.86
1 X 2	6	.10	1.12
Error	48	.09	
Within Subjects	540		
3. Task Type (VAR & AAR)	1	.17	4.05[b]
3 X 1	2	.07	1.70
3 X 2	3	.14	3.28[b]
3 X 1 X 2	6	.03	.63
Error	48	.04	
4. Analytical Unit	4	.25	13.07[a]
4 x 1	8	.03	1.62
4 X 2	12	.02	1.30
4 X 1 X 2	24	.02	1.13
Error	192	.01	
3 X 4	4	.16	6.93[a]
3 X 4 X 1	8	.01	.56
3 X 4 X 2	12	.03	1.30
3 X 4 X 1 X 2	24	.02	.76
Error	192	.02	
Total	599		

[a] $p < .01$.

[b] $p < .05$.

Visual-Oral Production

Source	df	MS	F
Between Subjects	59		
1. Groups	2	6.92	73.49[a]
2. Sequence	3	.52	5.54[a]
1 X 2	6	.18	1.94
Error	48	.09	
Within Subjects	240		
3. Analytical Unit	4	2.26	73.61[a]
3 X 1	8	.20	6.50[a]
3 X 2	12	.05	1.53
3 X 1 X 2	24	.03	1.14
Error	192	.03	
Total	299		

[a] $p < .01$.

Aural-Oral Production

Source	df	MS	F
Between Subjects	59		
1. Groups	2	6.10	31.77[a]
2. Sequence	3	.56	2.92[b]
1 X 2	6	.24	1.27
Error	48	.19	
Within Subjects	240		
3. Blending Unit	4	.53	18.80[a]
3 X 1	8	.06	2.22[b]
3 X 2	12	.03	.90
3 X 1 X 2	24	.02	.73
Error	192	.03	
Total	299		

[a] $p < .01$.

[b] $p < .05$.

Visual-Aural Recognition, Aural-Aural Recognition,
Visual-Oral Production, Aural-Oral Production

APPENDIX 2

SCORING MATERIALS AND STIMULUS ITEMS

Subject No._______
Group_______

Subject Information

Sex ______________ Name ______________________

Date _____________ Age ______________________

Experimenter _______

****

[illegible] Word Decoding Test

[illegible]

Date ____________________ Name ____________________

Group ____________________

Visual-Aural Recognition

Tape 1

______	1.	REET-REET	______	21.	RILL-RIT
______	2.	LAT-LIT	______	22.	MEED-THEED
______	3.	LIT-LEET	______	23.	MUN-LUN
______	4.	WAD-WAN	______	24.	FET-RET
______	5.	LILL-WILL	______	25.	LIT-LAT
______	6.	RET-RELL	______	26.	THEED-THAD
______	7.	RILL-LILL	______	27.	THIT-THET
______	8.	WAT-WAN	______	28.	THILL-THIT
______	9.	THEET-THEED	______	29.	THELL-THET
______	10.	RIT-REET	______	30.	RELL-RILL
______	11.	WAN-SAN	______	31.	LAN-LUN
______	12.	RIT-RET	______	32.	LILL-LELL
______	13.	WAD-RAD	______	33.	RILL-RELL
______	14.	LAN-LAT	______	34.	RAD-WAD
______	15.	LIT-LILL	______	35.	THIT-THEET
______	16.	THELL-THILL	______	36.	WAT-WAD
______	17.	LAN-LAT	______	37.	RIT-REET
______	18.	THET-THIT	______	38.	WELL-RELL
______	19.	LAT-LEET	______	39.	WAN-WAD
______	20.	WAT-LAT	______	40.	LAN-SAN

****

Errors: 1 ______ 2 ______ 3 ______ 4 ______ 5 ______ Total ______

Date________________ Name________________

Group________________

Visual-Aural Recognition

Tape 2

____ 1. REET-LEET
____ 2. LIT-LAT
____ 3. LEET-LIT
____ 4. WAN-WAD
____ 5. NILL-LILL
____ 6. RELL-RET
____ 7. LILL-RILL
____ 8. WAN-WAT
____ 9. THEED-THEET
____ 10. REET-RIT
____ 11. SAN-WAN
____ 12. RET-RIT
____ 13. RAD-WAD
____ 14. LAT-LAN
____ 15. LILL-LIT
____ 16. THILL-THELL
____ 17. LAT-LAN
____ 18. THIT-THET
____ 19. LEET-LAT
____ 20. LAT-WAT
____ 21. RIT-RILL
____ 22. THEED-MEED
____ 23. LUN-MUN
____ 24. RET-FET
____ 25. LAT-LIT
____ 26. THAD-THEED
____ 27. THET-THIT
____ 28. THIT-THILL
____ 29. THET-THELL
____ 30. RILL-RELL
____ 31. LUN-LAN
____ 32. LELL-LILL
____ 33. RELL-RILL
____ 34. NAD-RAD
____ 35. THEET-THIT
____ 36. WAD-WAT
____ 37. REET-RIT
____ 38. RELL-MELL
____ 39. WAD-WAN
____ 40. SAN-LAN

****

Errors: U_1______ U_2______ U_3______ U_4______ U_5______ Total______

Date________________ Name________________

Group________________

Aural-Aural Recognition

Tape 1

_______ 1. THIT-THEET (ee)

_______ 2. LAT-WAT (l)

_______ 3. WAT-WAN (t)

_______ 4. LAT-LAN (n)

_______ 5. LEET-LIT (i)

_______ 6. SAN-WAN (s)

_______ 7. RELL-MELL (m)

_______ 8. LAN-LAT (at)

_______ 9. THET-THIT (e)

_______ 10. RILL-RELL (ill)

_______ 11. THILL-THELL (e)

_______ 12. LAT-LIT (la)

_______ 13. THELL-THET (et)

_______ 14. MUN-LUN (m)

_______ 15. REET-LEET (l)

_______ 16. REET-RIT (it)

_______ 17. THEED-MEED (mee)

_______ 18. LILL-LIT (ll)

_______ 19. LILL-NILL (n)

_______ 20. LAN-SAN (la)

_______ 21. WAN-WAD (an)

_______ 22. THET-THIT (it)

_______ 23. LUN-LAN (u)

_______ 24. LILL-RILL (ri)

_______ 25. REET-RIT (ree)

_______ 26. THEED-THAD (a)

_______ 27. RET-RIT (e)

_______ 28. LILL-LELL (le)

_______ 29. THEED-THEET (eed)

_______ 30. LEET-LAT (ee)

_______ 31. WAD-WAN (d)

_______ 32. RET-FET (f)

_______ 33. RIT-RILL (t)

_______ 34. THIT-THILL (ll)

_______ 35. RELL-RET (t)

_______ 36. RELL-RILL (re)

_______ 37. WAD-RAD (ra)

_______ 38. NAD-RAD (n)

_______ 39. WAD-WAT (t)

_______ 40. LIT-LAT (it)

Errors: U_1______ U_2______ U_3______ U_4______ U_5______

Date________________ Name__________________

Group______________

Aural-Aural Recognition

Tape 2

_____ 1. THEET-THIT (ee)
_____ 2. WAT-LAT (l)
_____ 3. WAN-WAT (t)
_____ 4. LAN-LAT (n)
_____ 5. LIT-LEET (i)
_____ 6. WAN-SAN (s)
_____ 7. MELL-RELL (m)
_____ 8. LAT-LAN (at)
_____ 9. THIT-THET (e)
_____ 10. RELL-RILL (ill)
_____ 11. THELL-THILL (e)
_____ 12. LIT-LAT (la)
_____ 13. THET-THELL (et)
_____ 14. LUN-MUN (m)
_____ 15. LEET-REET (l)
_____ 16. RIT-REET (it)
_____ 17. MEED-THEED (mee)
_____ 18. LIT-LILL (ll)
_____ 19. NILL-LILL (n)
_____ 20. SAN-LAN (la)
_____ 21. WAD-WAN (an)
_____ 22. THIT-THET (it)
_____ 23. LAN-LUN (u)
_____ 24. RILL-LILL (ri)
_____ 25. RIT-REET (ree)
_____ 26. THAD-THEED (a)
_____ 27. RIT-RET (e)
_____ 28. LELL-LILL (le)
_____ 29. THEET-THEED (eed)
_____ 30. LAT-LEET (ee)
_____ 31. WAN-WAD (d)
_____ 32. FET-RET (f)
_____ 33. RILL-RIT (t)
_____ 34. THILL-THIT (ll)
_____ 35. RET-RELL (t)
_____ 36. RILL-RELL (re)
_____ 37. RAD-WAD (ra)
_____ 38. RAD-NAD (n)
_____ 39. WAT-WAD (t)
_____ 40. LAT-LIT (it)

Errors: U_1_____ U_2_____ ~~U_3~~_____ U_4_____ U_5_____

Date________________ Name__________________

Group______________

Visual-Aural Production

List 1

1. RIT	______	16. LILL	______
2. THIT	______	17. MELL	______
3. RAD	______	18. MON	______
4. WAD	______	19. LELL	______
5. LAT	______	20. LUN	______
6. THAD	______	21. THUN	______
7. NAD	______	22. LAN	______
8. RET	______	23. WAN	______
9. THET	______	24. REET	______
10. WAT	______	25. NILL	______
11. FET	______	26. MEED	______
12. RILL	______	27. THEET	______
13. THELL	______	28. LEET	______
14. THILL	______	29. SAN	______
15. RELL	______	30. THEED	______

Errors: U_1______ U_2______ U_3______ U_4______ U_5______

Date ________________ Name ________________

Group ________________

Visual-Aural Production Items

List 2

1. RIT ______
2. THIT ______
3. RAD ______
4. WAD ______
5. LAT ______
6. THAD ______
7. NAD ______
8. RET ______
9. THET ______
10. WAT ______
11. FET ______
12. RILL ______
13. THELL ______
14. THILL ______
15. RELL ______
16. LILL ______
17. MELL ______
18. MUN ______
19. LELL ______
20. LUN ______
21. THUN ______
22. LAN ______
23. WAN ______
24. REET ______
25. NILL ______
26. MEED ______
27. THEET ______
28. LEET ______
29. SAN ______
30. THEED ______

Errors: U_1 ______ U_2 ______ U_3 ______ U_4 ______ U_5 ______

Date______________ Name____________________

Group____________

Visual-Aural Production Items

List 3

1. RIT	_______	16. LILL	_______
2. THIT	_______	17. MELL	_______
3. RAD	_______	18. MUN	_______
4. WAD	_______	19. LELL	_______
5. LAT	_______	20. LUN	_______
6. THAD	_______	21. THUN	_______
7. NAD	_______	22. LAN	_______
8. RET	_______	23. WAN	_______
9. THET	_______	24. REET	_______
10. WAT	_______	25. NILL	_______
11. RET	_______	26. MEED	_______
12. RILL	_______	27. THEET	_______
13. THELL	_______	28. LEET	_______
14. THILL	_______	29. SAN	_______
15. RELL	_______	30. THEED	_______

Errors: U_1_______ U_2_______ U_3_______ U_4_______ U_5_______

Date________________ Name________________

Group________________

Visual-Aural Production Items

List 5

1.	RIT	______	16.	LILL	______
2.	THIT	______	17.	MELL	______
3.	RAD	______	18.	MUN	______
4.	WAD	______	19.	LELL	______
5.	LAT	______	20.	LUN	______
6.	THAD	______	21.	THUN	______
7.	NAD	______	22.	LAN	______
8.	RET	______	23.	WAN	______
9.	THET	______	24.	REET	______
10.	WAT	______	25.	NILL	______
11.	FET	______	26.	MEED	______
12.	RILL	______	27.	THEET	______
13.	THELL	______	28.	LEET	______
14.	THILL	______	29.	SAN	______
15.	RELL	______	30.	THEED	______

Errors: U_1______ U_2______ U_3______ U_4______ U_5______

Date________________ Name________________

Group________________

Visual-Aural Production Items

List 4

1.	RIT	______	16.	LILL	______
2.	THIT	______	17.	MELL	______
3.	RAD	______	18.	MUN	______
4.	WAD	______	19.	LELL	______
5.	LAT	______	20.	LUN	______
6.	THAD	______	21.	THUN	______
7.	NAD	______	22.	LAN	______
8.	RET	______	23.	WAN	______
9.	THET	______	24.	REET	______
10.	WAT	______	25.	NILL	______
11.	FET	______	26.	MEED	______
12.	RILL	______	27.	THEET	______
13.	THELL	______	28.	LEET	______
14.	THILL	______	29.	SAN	______
15.	RELL	______	30.	THEED	______

Errors: U_1______ U_2______ U_3______ U_4______ U_5______

Date________________________ Name____________________

Group_______________

Aural-Aural Production

Tape 1

1. TH-EED	________	16. R-ELL	________
2. SA-N	________	17. THI-LL	________
3. L-EE-T	________	18. TH-E-LL	________
4. TH-EE	________	19. R-I	________
5. EE-D	________	20. E-T	________
6. N-ILL	________	21. W-AT	________
7. REE-T	________	22. THE-T	________
8. W-A-N	________	23. R-E-T	________
9. L-A	________	24. N-A	________
10. U-N	________	25. A-D	________
11. L-UN	________	26. L-AT	________
12. LE-LL	________	27. WA-D	________
13. M-U-N	________	28. R-Å-D	________
14. M-E	________	29. TH-I	________
15. I-LL	________	30. I-T	________

Errors: A______ B______ C______ D______ E______

Date ______________ Name ______________

Group ______________

Aural-Aural Production

Tape 2

1.	THEE-D	________	16.	RE-LL	________
2.	S-A-N	________	17.	TH-I-LL	________
3.	L-EE	________	18.	TH-E	________
4.	EE-T	________	19.	I-LL	________
5.	M-EED	________	20.	F-ET	________
6.	NI-LL	________	21.	WA-T	________
7.	R-EE-T	________	22.	TH-E-T	________
8.	W-A	________	23.	R-E	________
9.	A-N	________	24.	A-D	________
10.	TH-UN	________	25.	TH-AD	________
11.	LU-N	________	26.	LA-T	________
12.	L-E-LL	________	27.	W-A-D	________
13.	M-U	________	28.	R-A	________
14.	E-LL	________	29.	I-T	________
15.	L-ILL	________	30.	R-IT	________

Errors: A______ B______ C______ D______ E______

[illegible] ____________ [illegible] ____________

[illegible] ____________

[illegible]

[illegible]

[illegible]	____________	[illegible]	____________
[illegible]	____________	[illegible]	____________
[illegible]	____________	[illegible]	____________
[illegible]	____________	[illegible]	____________
[illegible]	____________	[illegible]	____________
[illegible]	____________	[illegible]	____________
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[illegible]	____________	[illegible]	____________
[illegible]	____________	[illegible]	____________
[illegible]	____________	[illegible]	____________
[illegible]	____________	[illegible]	____________
[illegible]	____________	[illegible]	____________
[illegible]	____________	[illegible]	____________
[illegible]	____________	[illegible]	____________

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